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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
FALK, ANNE MARIE	

ART UNIT	PAPER NUMBER
1632	

NOTIFICATION DATE	DELIVERY MODE
12/10/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/776,780	DURING, MATTHEW J.	
	Examiner	Art Unit	
	Anne-Marie Falk, Ph.D.	1632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,10-12 and 20-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1 and 10* is/are allowed.

6)☒ Claim(s) *2,11,12 and 20-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The amendment filed November 12, 2009 (hereinafter referred to as "the response") has been entered. Claims 1, 11, and 12 have been amended. Claims 7-9 have been canceled and Claims 20-28 have been newly added. Claims 4 and 14 were canceled in the after final amendment of August 11, 2009.

Accordingly, Claims 1, 2, 10-12, and 20-28 are pending in the instant application.

The rejection of Claims 1, 2, 4, 7, 8, and 10 under 35 U.S.C. 103(a), as being unpatentable over Lissin et al. (June 1998) in view of Kammesheidt et al. (1996), is **withdrawn** in view of the amendment to Claim 1 and the cancelation of Claims 4, 7, and 8.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 12, 2009 has been entered.

Priority

Applicant's claim for domestic priority under 35 U.S.C. 119(e) and 120 is acknowledged. However, the provisional applications and parent application upon which priority is claimed fail to provide adequate support under 35 U.S.C. 112 for Claims 1, 2, 10-12, and 20-28 of this application, for the same reasons discussed hereinbelow as applied to the present application. Application serial nos. 60/116,748, 60/127,142, and parent application no. 09/491,896 fail to provide an enabling disclosure for

the invention now being claimed in Claims 1, 2, 10-12, and 20-28, for the reasons discussed herein below as a rejection under 35 U.S.C. 112, first paragraph, as applied to the instant application.

Thus, the earlier-filed applications do not meet the requirements under 35 U.S.C. 119(e) and 120 for the benefit of obtaining priority to an earlier-filed application.

At page 4 of the response, Applicant reiterates the position that the priority documents provide adequate support for the claimed invention. However, for the benefit of obtaining priority to an earlier-filed application, 35 U.S.C. 119(e) and 120 require compliance with 35 U.S.C. 112, which requires an enabling disclosure in addition to written description of the claimed invention. The Examiner acknowledges that the priority issue stands or falls with the enablement rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2, 11, and 12 stand rejected and Claims 20-28 are rejected under 35 U.S.C. 112, first paragraph, for reasons of record set forth in the Office Actions of 11/21/05, 11/30/06, 1/4/08, 12/17/08, 6/11/09, and 8/25/09, and for the reasons set forth below, because the specification, while being enabling for (i) a composition comprising an AAV vector comprising a nucleic acid encoding NMDAR1 operably linked to a promoter and (ii) a method of ameliorating brain damage associated with epilepsy or stroke in a rat, via prior oral administration of said AAV vector, such that the antigen is expressed and elicits production of NMDAR1-specific antibodies in the circulatory system of the rat, wherein epileptic seizures are diminished and stroke infarct volume is decreased as compared to an untreated control rat, does not reasonably provide enablement for a composition comprising any vector encoding an NMDA receptor-1 antigen, nor for a method of modulating or delaying onset of epilepsy or stroke in any subject, by

administration of any vector encoding an NMDA receptor-1 antigen. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The scope of enablement set forth above is not intended to suggest specific claim language, but rather is intended to advise Applicant of the broadest scope that is considered to be enabled. It is Applicant's responsibility to identify claim language that is properly supported in the specification and that falls within the scope acknowledged to be enabled.

At page 5 of the response, Applicant notes that the claims were amended to specify an NMDA receptor-1 antigen. However, Claim 2 continues to recite an NMDA receptor.

At pages 5-6 of the response, Applicant reiterates the position that the specification, while only presenting experimental results in rats, is enabling for the broader scope of subjects as defined in the specification, including humans. Applicant disagrees with the suggestion that the claims are enabled only for the treatment of rats. With regard to the rats exemplified, Applicant alleges, at page 6 of the response, that they are animal models accepted by those skilled in the art. Applicant points to the reference of During et al. (2000) for demonstrating that the animal models presented in the application were accepted by those skilled in the art. However, there is no evidence in the cited reference that the immune responses of rats to DNA vaccination correlates to the immune response of humans and other subjects. Applicant points to MPEP 2164.02 for stating that an animal model constitutes a working example if that example correlates with a disclosed or claimed method invention. However, given the teachings of McCluskie et al. (see the Office action of 11/21/05 at page 10), the results obtained in a rat model of genetic immunization does not correlate with results obtained with other species. Specifically, McCluskie et al. teaches that the strength and nature of the immune responses to administration of DNA vaccines varies between species and that it is not clear that the results from one species are predictive in another (page 287, abstract).

At pages 6-7 of the response, Applicant asserts that the specification enables modes of administration other than oral administration. Applicant points to methods of delivery listed in section III and section IV "Delivery Systems" of the specification, in which alternative delivery mechanisms such as intravenous and intramuscular injection are taught. Applicant asserts that the McCluskie article supports the enablement of Applicant's claims because it discloses that various modes of genetic vaccine administration, such as intravenous injection, intramuscular, gene-gun and non-injected administration were well known to one skilled in the art. However, the availabilty of other modes of administration is not sufficient to enable the use of other modes of administration in the claimed invention because McCluskie amply demonstrates that different modes of administration produce varying effects that are not predictable. Accordingly, there is no evidence that these other modes of administration would evoke a therapeutic effect to ameliorate epilepsy or stroke in a subject.

At page 7 of the response, Applicant alleges that the specification enables the use of vectors other than AAV because several alternative vectors and methods of delivery are listed in section IV "Delivery Systems" of the specification. However, the availability of other vectors is not sufficient to enable the use of other vectors in the claimed methods because the art of record demonstrates that finding the appropriate vector, with the appropriate control sequences, under the appropriate mode of administration to provide a therapeutic effect, is unpredictable. Giving due consideration to all the *Wands* factors, including but not limited to, the unpredictability in the art of DNA vaccination, it is maintained that the specification fails to enable the use of vectors other than AAV. See especially the evidence cited and discussed at pages 6-11 of the Office action of 11/21/05, which details the difficulties intrinsic to designing appropriate vectors for genetic immunization protocols sufficient to produce a therapeutic effect. Applicant asserts that the Examiner stated in the Advisory action that it is unclear why the adenovirus vector of Lissin would not be suitable for eliciting production of NMDA receptor-1 antibodies." However, given the evidence of record, it is clear that evoking an antibody response at any

level, is not sufficient to provide the biological effects recited in the claims. While the evidence of record shows that an AAV vector can produce the recited biological effects, the results that may be produced using other vectors are unpredictable, for reasons of record.

Furthermore, none of the claims recite that the vector is given via oral administration prior to the neuronal insult.

A complete *Wands* analysis has been provided, with a discussion of those factors most relevant to the present claims, including the nature of the invention, the state of the prior art, the predictability of the art, the breadth of the claims, the amount of direction or guidance presented, the presence or absence of working examples, and the quantity of experimentation necessary to enable the claims over their full scope. Giving due consideration to all the *Wands* factors, it was concluded that the specification fails to provide an enabling disclosure for the full scope of the claims. Numerous references were provided pointing to the unpredictability in the art of DNA vaccination and it is maintained that the specification fails to enable the full scope of the claims.

Given the *Wands* analysis of record, the specification fails to enable the full scope of the claims. The court has stated that "[n]aturally, the specification must teach those of skill in the art how to make and use the invention as broadly as it is claimed." *In re Goodman*, 29 USPQ2d 2010 at 2013 (Fed. Cir. 1993).

The unpredictability of a particular art area may alone provide reasonable doubt as to the accuracy of the broad statement made in support of enablement of claims. See *Ex parte Singh*, 17 USPQ2d 1714 (BPAI 1991). It is also well established in case law that the specification must teach those of skill in the art how to make and how to use the invention as broadly claimed. *In re Goodman,* 29 USPQ2d at 2013 (Fed. Cir. 1994), citing *In re Vaeck*, 20 USPQ2d at 1445 (Fed. Cir. 1991).

Thus, it is maintained that the specification fails to enable the full scope of the claims.

Conclusion

Claims 1 and 10 are allowable.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet.

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For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne-Marie Falk whose telephone number is (571) 272-0728. The examiner can normally be reached Monday through Friday from 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Paras, can be reached on (571) 272-4517. The central official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Anne-Marie Falk, Ph.D.

/Anne-Marie Falk/
Primary Examiner, Art Unit 1632